

WEDECO · UV DISINFECTION FOR FOOD, BEVERAGE AND PROCESS WATER

WEDECO Spektron Industrial

Hygienic-design UV systems for food and beverage, pharmaceutical and microelectronics process water.



Overview

WEDECO Spektron Industrial takes the Spektron drinking water design and adapts it to the hygiene requirements of the food and beverage industry. The reactor has a smooth inner surface ($R_a < 0.8 \mu\text{m}$), hygienic connections and a solid stainless-steel control cabinet, helping to keep product taste and appearance consistent where process water goes into the product. The range also suits sensitive pharmaceutical and microelectronics applications. Four sizes match different flow ranges.

Ozone UV Solutions supplies Spektron Industrial systems as an authorised WEDECO reseller and supports them locally: sizing, installation, commissioning, servicing, lamps and spare parts.

Key features

- Built on the DVGW-tested Spektron reactor design
- Inner surface finish $R_a < 0.8 \mu\text{m}$ and hygienic Tri-Clamp or DIN 11864-2 connections
- Ecoray low-pressure high-output amalgam lamps, 230–290 W, with a rated lamp life of up to 14,000 hours
- OptiDose sensor-based control: monitors flow, UV transmittance and UV intensity and sets power to the minimum needed for the dose
- ÖNORM-compliant UV intensity sensor and individual lamp monitoring
- EcoTouch controller in a stainless-steel IP65 cabinet, with configurable alarm outputs and SCADA communication

Design and operation

Hygienic design

The stainless-steel reactor (1.4404 / 1.4435, ASTM 316L) has an inner surface finish below Ra 0.8 µm and aseptic connections to Tri-Clamp or DIN 11864-2, so it can be integrated into hygienic process lines. The control cabinet is also stainless steel, rated IP65.

Lamps and energy

Ecoray amalgam lamps run on high-efficiency electronic ballasts with variable output (50–100%). Their UV-C output in dimmed mode is higher than that of conventional amalgam lamps, and their reduced mercury content makes them more stable.

Controls

OptiDose watches flow, UV transmittance and UV intensity in real time and holds the required dose without assumptions about process conditions. The EcoTouch HMI gives access to process data, with configurable alarm outputs and SCADA communication.

Maintenance

Sleeves are cleaned manually. The long rated life of the Ecoray lamps keeps lamp changes infrequent, and individual lamp monitoring flags a failed lamp straight away.

Typical applications

- Process and product water in food and beverage production
- Pharmaceutical water applications
- Microelectronics process water
- Drinking water and other high-UVT water at low to medium flows



Supplied and supported by Ozone UV Solutions

System selection and UV dose sizing · Installation and commissioning · PLC/SCADA integration · Planned servicing and lamp changes · Genuine WEDECO lamps, spare parts and consumables · 24/7 technical support line
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Model selection

The right model depends on flow rate, UV transmittance (UVT) of the water and the dose required for the target organisms. Send us these figures and we will confirm the model and configuration.

Spektron Industrial models

Model	Max. flow (m ³ /h)*	UV lamps	Power per lamp	Connection size	Dimensions A / B / C / D (mm)**	Power consumption (approx.)
Spektron 15i	29	1	230 W	DN65	1,340 / 169 / 170 / 1,380	0.35 kW
Spektron 30i	48	1	290 W	DN80	1,660 / 169 / 175 / 1,800	0.38 kW
Spektron 50i	101	2	290 W	DN100	1,660 / 204 / 228 / 1,800	0.70 kW
Spektron 90i	152	3	230 W	DN125	1,610 / 390 / 275 / 1,500	0.78 kW

* Maximum flow at 98% UVT and 400 J/m² at end of lamp life. ** Approximate vessel dimensions to the dimension drawing (A = reactor length; D = lamp-end dimension); drawing available on request. UV transmittance range 70–98% (1 cm).

Common specifications

UV LAMPS & MONITORING	
Lamp type	Ecoray low-pressure high-output (LPHO) amalgam, 230 W or 290 W
Rated lamp life	Up to 14,000 hours
UV monitoring	Germicidal UV intensity sensor, ÖNORM compliant · individual lamp monitoring
Power control	Electronic high-efficiency ballast, variable output 50–100% · OptiDose sensor-based control
Certification	Based on the DVGW-tested Spektron design
UV REACTOR	
Reactor material	Stainless steel 1.4404 / 1.4435 (ASTM 316L), inner surface Ra < 0.8 µm
Connections	Hygienic: Tri-Clamp or DIN 11864-2
UVT range	70–98% (1 cm)
Max. operating pressure	10 bar (145 psi)
Protection class	IP65
Sleeve cleaning	Manual
CONTROL CABINET	
Controller	EcoTouch with HMI and configurable alarm outputs
Outputs / SCADA	System status, lamp status, alarm messages, process values · SCADA communication
Cabinet	Stainless steel, IP65
Electrical standards	CE
Power supply	1 L/N/PE 230 V, 50–60 Hz (TN-S or TN-C net)

Request sizing or a quote

Send us your flow rate, UV transmittance if known, the application (product water, rinse water, utility water) and the connection standard used on your line. We will recommend the model and configuration and quote supply, installation and ongoing service.

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Specifications subject to change without notice.